A paper was read, entitled, "On the construction and use of Single Achromatic Eye-Pieces, and their superiority to the double eye-piece of Huyghens." By the Rev. J. B. Reade, M.A., F.R.S.

The author observes, that experience has shown it to be impracticable to make a telescope even approach to achromatism, by employing the same object-glass with an astronomical, as with a terrestrial eye-piece: for if the focus of the blue rays from the object-glass be thrown forwards, as it must be in order to make it impinge upon the focus of the blue rays of the terrestrial eye-glass, then there will be produced a great *over-correction* for the astronomical eye-glass; and *vice versa*. Hence it appears that the application of Huyghenian eye-pieces to refracting telescopes, is incompatible with the conditions of achromatism, throughout the entire range of magnifying power; and that in reflecting telescopes they unavoidably introduce dispersion, because they are not in themselves achromatic. These defects the author proposes wholly to obviate, by substituting for the Huyghenian eye-pieces, single achromatic lenses of corresponding magnifying power; consisting of the well-known combination of the crown-lens, and its correcting flint-lens, having their adjacent surfaces cemented together; thus avoiding internal reflections, and enabling them to act as a single lens. The achromatic eye-pieces which he uses were made by Messrs. Tulley and Ross, and are of the description usually termed *single cemented triples*.

A paper was also read, entitled, "Meteorological Observations made between October, 1837, and April, 1839, at Alten in Finmarken." By Mr. S. H. Thomas, chief mining agent at the Alten Copper Works. Presented to the Royal Society by John R. Crowe, Esq., Her Britannic Majesty's Consul at Finmarken. Communicated by Major Edward Sabine, R.A., V.P.R.S.

This memoir consists of tables of daily observations of the barometer and thermometer, taken at 9 A.M., 2 P.M., and 9 P.M., with remarks on the state of the weather, at Kaafjord, in latitude 69° 58′ 3″ north, and longitude 23° 43′ 10″ east of Paris.

January 16, 1840.

JOHN WILLIAM LUBBOCK, Esq., V.P. and Treasurer, in the Chair.

A paper was read, entitled, "On Nobili's Plate of Colours; in a Letter from J. P. Gassiot, Esq., addressed to J. W. Lubbock, Esq., V.P. and Treasurer R.S." Communicated by J. W. Lubbock, Esq.

The effect produced by the late Signor Nobili, of inducing colours on a steel plate, excited the curiosity of the author, and led him to the invention of the following method of producing similar effects. Two of Professor Daniell's large constant cells were exci-

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ted with the usual solutions of sulphate of copper and sulphuric acid. A highly-polished steel plate was placed in a porcelain soup-plate, and a filtered solution of acetate of lead poured upon it. A piece of card-board, out of which the required figures had been previously cut with a sharp knife, was then placed upon a steel-plate. Over the card, and resting on it, there was fixed a ring of wood, a quarter of an inch thick, and the inner circumference of which was of the same size as the figure. A convex copper-plate was made so that its outer edge might rest on the inner part of the wooden ring; and its centre placed near, but not in actual contact with the card-board. Connexion was then made by the positive electrode of the battery with the steel-plate; the negative being placed in the centre of the copper convex plate. The figure was generally obtained in from 15 to 35 seconds. If a concave, instead of a convex plate be used, the same colours are obtained as in the former experiment, but in an inverse order.

" Geographical position of the principal points of the Triangulations of the Californias and of the Mexican coasts of the Pacific, with the heights of the principal points of that part of the Cordilleras." By the Comte Vincent Piccolomini; in a letter addressed to Sir John F. W. Herschel, Bart., V.P.R.S. Communicated by Sir John Herschel.

Hauteurs des principaux points des Cordilleres, des côtes de l'Océan Pacifique du Mexique, et de la haute et basse Californie.

	Elévation en pieds français sur le niveau de la mer pacifique.
Volcano di Orizaba	18728
Volcano di Popocatepetl	17812
Volcano di Tztlacihuatl	15698
Rio frio	10948
Real del Monte	10570
El oro	8995
Tlalpuhahua	8435
Ameia	8247
Naupalucan	8194
Las Vigas	7918
Perote	7911
Ozumba (Etat de Puebla)	7874
Tepeyahualco	7702
Ozumba (Etat de Mexico)	7620
S. Rosa	7565
Lagunas de Chalco	7510
Mexico	7450
Tepeaca	7444
Huehuetaca	7121
Puebla	7078
Tula	6613
Tlacotepec	6479
Zacualpan	6181
Tasco	5971
Temascaltepec	5760
Guernavaia	5447
Tchuacan	5398
Xantetelco	5030
Cuicatlan	5028
Oajaca	5024
Cuautla	4587
Talapa	4542
Acayucan	4485
Coscomatepec	4451
Huatusco	4424
Talostoc	4421
Lautepec	4019
Orizaba (ville)	3998
Real de Christo	3851
Huaitla	3336
Cordova	2769
Dominguillo	2274
Villalé	1578
Petapa	617
Tehuantepec (Océan Pacifique.)	132